

Appl No. 10/663,955
Reply Dated 25 January 2006
Reply to Office Action of 29 November 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

CLAIMS

What is claimed is:

1. (Currently Amended) A device for the collection and extraction of at least one analyte within a sample, said device comprising:
a sorption vial including an interior surface, an opening to said interior surface and a closed vial base distal said opening;
a sorptive coating on said interior surface;
a sample vessel for collecting said sample;
a cap for closing said sample vessel; and
said vial base selectively removably attached to said cap, said cap retaining said sorption vial within said sample vessel during said collection and said extraction.
2. (Original) The device of claim 1, further comprising:
said interior surface having a conical shape;
said conically-shaped interior surface having a vertex and a directrix;
said vertex proximate said vial base;
said directrix facing said opening.
3. (Original) The device of claim 1, further comprising:

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said interior surface including an interior wall and an interior base;

said interior base having a conical shape;

said conically-shaped interior base having a vertex and a directrix;

said vertex proximate said vial base;

said directrix contiguous with said interior wall; and

said sorptive coating covering said conically-shaped interior base.

4. (Original) The device of claim 3, wherein said sorption vial comprises silica glass.

5. (Original) The device of claim 3, further comprising:

said sorptive coating comprising an immobilized polysiloxane polymer having one type of functional group selected from the group consisting of alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl and haloaryl.

6. (Original) The device of claim 3, further comprising:

said sorptive coating comprising an immobilized polysiloxane polymer having at least two types of functional groups selected from the group consisting of alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl and haloaryl.

7. (Original) The device of claim 3, wherein said sorptive coating comprises an immobilized porous polymer.

8. (Original) The device of claim 7, wherein said immobilized porous polymer is selected from the group consisting of: divinylbenzene, ethyleneglycoldimethacrylate, polyethyleneimine, acrylonitrile, n-vinyl-2-pyrrolidinone, and 4-vinyl-pyridine.

9. (Original) The device of claim 3, wherein said sorptive coating comprises a sol gel coating.

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10. (Original) The device of claim 3, wherein said sorptive coating is a polymer existing above its glass transition temperature.
11. (Original) The device of claim 3, further comprising:
 a vial cap for sealing said sorption vial; and
 said vial cap covering said opening.
12. (Currently amended) A device for the collection and extraction of at least one analyte within a sample, said device comprising:
 a sorption vial including an interior wall, an interior base, an opening to said interior wall and said interior base and a vial base ~~distal~~ said opening;
 said interior base having a conical shape;
 said conically-shaped interior base having a vertex and a directrix;
 said vertex proximate said vial base;
 said directrix contiguous with said interior wall;
 a sorptive coating on said conically-shaped interior base;
 a sample vessel for collecting said sample;
 a cap for closing said sample vessel;
 said vial base ~~selectively~~ removably attached to said cap;
 a vial cap for sealing said sorption vial; and
 said vial cap covering said opening.
13. (Original) The device of claim 12, further comprising:

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said sorptive coating comprising an immobilized polysiloxane polymer having one type of functional group selected from the group consisting of alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl and haloaryl.

14. (Original) The device of claim 12, further comprising:

said sorptive coating comprising an immobilized polysiloxane polymer having at least two types of functional groups selected from the group consisting of alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl and haloaryl.

15. (Original) The device of claim 12, wherein said sorptive coating comprises an immobilized porous polymer.

16. (Original) The device of claim 15, wherein said immobilized porous polymer is selected from the group consisting of: divinylbenzene, ethyleneglycoldimethacrylate, polyethylencimine, acrylonitrile, n-vinyl-2-pyrrolidinone, and 4-vinyl-pyridine.

17. (Original) The device of claim 12, wherein said sorptive coating comprises a sol gel coating.

18. (Original) The device of claim 12, wherein said sorptive coating is a polymer existing above its glass transition temperature.

19. (Currently amended) A method for performing direct vial extraction of analytes from a sample utilizing a sorption vial and a sample vessel, said sorption vial including a closed vial base, a vial interior, and a vial opening, ~~said vial interior intermediate said vial base and said vial opening~~, said method comprising:
coating said vial interior with a sorptive material;
selectively removably attaching said closed vial base to a cap;

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collecting a liquid sample in said sample vessel;

closing said sample vessel with said cap, said cap retaining said sorption vial within said sample vessel;

exposing said liquid sample to said sorptive coating;

opening said sample vessel;

removing said sorption vial from said cap;

adding a solvent to said sorption vial; and

sealing said sorption vial with a vial cap.

20. (Original) The method of claim 19 wherein said exposing step comprises agitating said sample vessel.
21. (Original) The method of claim 19 wherein said exposing step comprises subjecting said sorption vial to a headspace above said sample.
22. (Original) The method of claim 19 wherein said vial interior including a conically-shaped bottom surface; and
 said coating step including coating said conically-shaped bottom surface with said sorptive coating.